

A NEW SPECIES OF *LITOPROSOPUS* (LEPIDOPTERA: NOCTUIDAE) FROM BAJA CALIFORNIA, MEXICO

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Abstract.—*Litoprosopus bajaensis* Brown and Faulkner, NEW SPECIES, a taxon endemic to the northern portion of the Vizcaino Desert, Baja California, Mexico, is described and illustrated. The description is based on six specimens (two males and four females) collected between 31 March and 1 May (1975–1985). The combination of the long curved ampulla, short third segment of the labial palpus, and pale fawn-gray forewing color separate *L. bajaensis* from all other species of *Litoprosopus*.

Key Words.—Insecta, Lepidoptera, Noctuidae, *Litoprosopus bajaensis*, Baja California.

Although our knowledge of the lepidopterous fauna of the peninsula of Baja California, Mexico, has increased dramatically over the last ten years (e.g., Brown & Donahue 1989, Brown, Real & Faulkner 1992, Eichlin 1993), considerable portions of the fauna remain poorly studied. Numerous endemic taxa are undescribed, and published information is lacking for several major groups (e.g., microlepidoptera, Arctiidae, Noctuidae). This paper describes a new species of *Litoprosopus* (Noctuidae) from the northern portion of the Vizcaino Desert. The new species is geographically isolated and morphologically distinct from its congeners.

Dissection methodology followed that presented in Clarke (1941). Terminology for structures of the genitalia follows Eichlin (1975).

Depositories and Abbreviations.—Specimens of *Litoprosopus* were borrowed from the following collections: Natural History Museum of Los Angeles County (LACM); University of California, Berkeley (UCB); and San Diego Natural History Museum (SDNHM). Comparative material was borrowed from The Natural History Museum, London, England; National Museum of Natural History, Washington, D.C.; American Museum of Natural History, New York, New York; and Carnegie Museum of Natural History, Pittsburgh, Pennsylvania.

Litoprosopus bajaensis Brown & Faulkner, NEW SPECIES (Figs. 1–3)

Type Material.—Holotype: male: MEXICO: BAJA CALIFORNIA: 1.6 km (1 mi) E of Santa Inez, 6 Apr 1985, D. K. Faulkner, UV light (SDNHM). Five paratypes as follows: MEXICO: BAJA CALIFORNIA: 5 km N of Catavina, 2 females, 1 May 1975, E. M. Fisher (LACM); 16 km (10 mi) SE of El Rosario, 1 male, 31 Mar 1976, black light trap (UCB); 1.6 km (1 mi) E of Santa Inez, 2 females, 6 Apr 1985, D. K. Faulkner (SDNHM).

Description.—*Adult Male. Head:* Frons sparsely scaled below mid-eye; vertex long-scaled, pale fawn-gray. Ocelli small. Labial palpus strongly upturned, pale fawn-gray; segment III short and blunt, approximately 0.25 times length of segment II. *Thorax:* Smooth-scaled, densely clothed in fawn-gray

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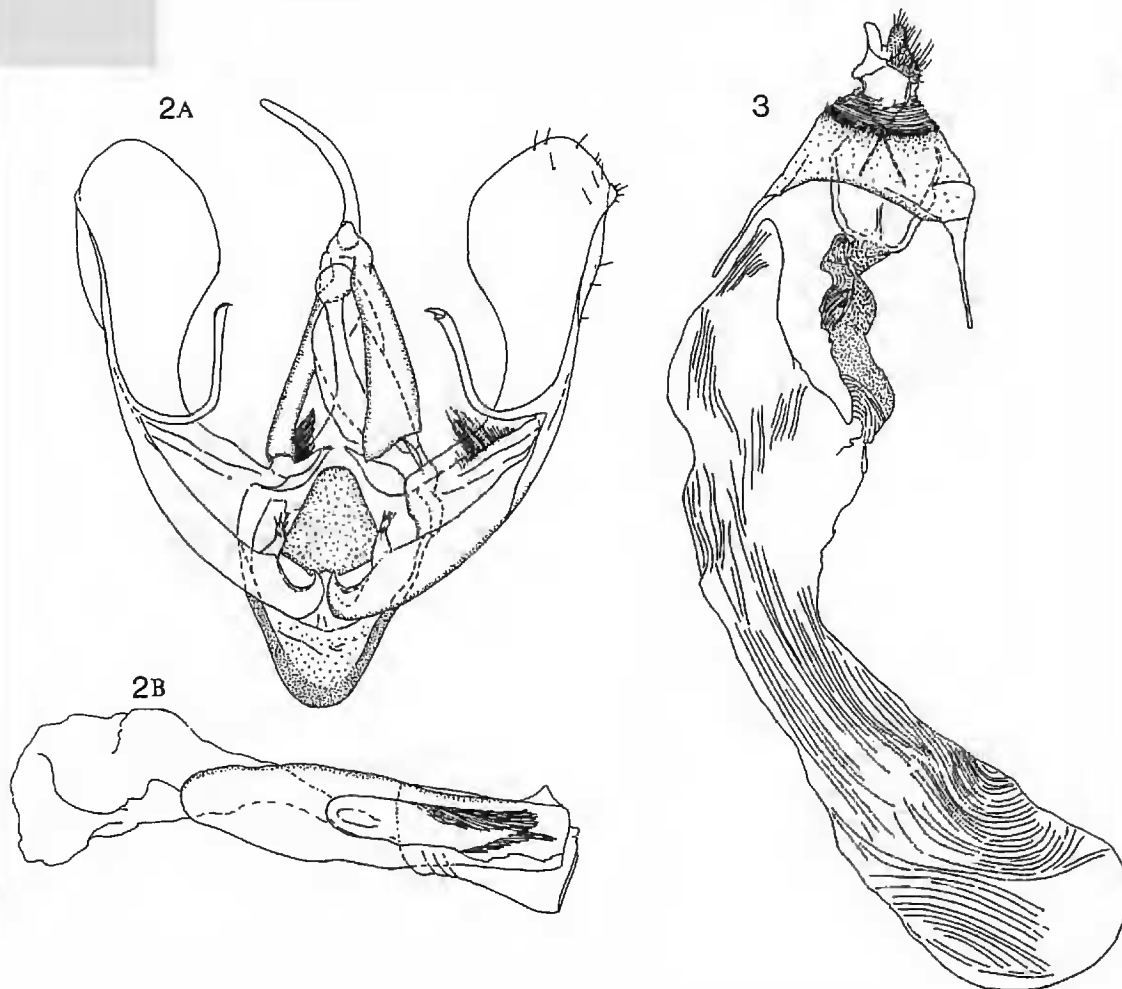
Figure 1. Adult female of *Litoprosopus bajaensis*.

scales. *Forewing*: Length 20–22 mm ($\bar{x} = 21$; $n = 2$) (Fig. 1). Uniform pale fawn-gray above, with few small brown specks in basal half of discal cell. Underside glossy pale tan. *Hindwing*: White above, with fawn-brown border and faint mottling; “eye-spot” at margin comprised of a pair of small, dark brown, subrectangular spots between veins 1A + 2A - CuP and CuP - CuA₂. Underside glossy white. *Genitalia*: As in Fig. 2 (drawn from JWB slide no. 136, Baja California, Mexico; $n = 1$). Uncus long, slender, nearly uniform in width, but attenuate distally. Tegumen narrow. Juxta trapezoidal. Valva long, broadest distally, narrowest subbasally. Sacculus with broadly hook-shaped base, subtended distally by long, narrow digitate process; broad basal portion of sacculus attenuate at approximately 0.4 distance from base to apex; long, narrow, curved ampulla from sacculus approximately 0.5 distance from base to apex, arising from narrow, strongly sclerotized portion of sacculus; sacculus ending near apex of valva with several small warts bearing setae. Aedeagus moderately long, broad; two large patches of scobination in basal portion of vesica.

Adult Female.—Essentially as described for male. Forewing length 19–24 mm ($\bar{x} = 21$; $n = 4$). *Genitalia*: As in Fig. 3 (drawn from JWB slide no. 137, Baja California, Mexico; $n = 2$). Papillae anales simple, unmodified. Sterigma a sclerotized band; ostium bursae represented by a strong cup-shaped process. Ductus bursae with dense patches of scobination posteriorly, lines of sclerotization anteriorly. Corpus bursae long, moderately narrow, unsclerotized, with large region caudal to attachment of ductus bursae (“apex” sensu Eichlin 1975). Ductus seminalis from posterior portion of apex.

Diagnosis.—*Litoprosopus bajaensis* can be distinguished superficially from all other species of *Litoprosopus* by its nearly uniform pale fawn-gray forewing color. Most species in the genus are characterized by varying shades of brown on the forewing, usually with some lighter or darker mottling. The closest species geographically, *L. coachella* Hill, has a pale tan-ocherous forewing, with traces of two, narrow, brown, curved lateral bands. The two apparently are allopatric, with *L. coachella* restricted to southern California and *L. bajaensis* restricted to the Vizcaino Desert of Baja California, Mexico.

The male genitalia of *L. bajaensis* can be distinguished from *L. futilis* (Grote & Robinson), *L. confligens* (Walker), and *L. coachella* by its longer and more strongly curved process from the ampulla, which is reminiscent of *L. puncticosta* Hampson and *L. bahamensis* Hampson, both from the Caribbean. *Litoprosopus bajaensis* can be distinguished from the latter two by its longer region of sub-basal constriction of the valva and the warty bases of setae at the distal end of the sacculus.



Figures 2–3. Genitalia of *Litoprosopus bajaensis*. Figure 2a. Male, valvae spread. Figure 2b. Aedeagus removed. Figure 3. Female.

The third segment of the labial palpus is short (approximately 0.25 the length of the second segment) and blunt in *L. bajaensis*. This is similar to *L. conflagens* but differs from all other species examined in which the third segment is 0.6–0.8 times as long as the second.

Distribution and Life History.—*Litoprosopus bajaensis* is known only from the northern portion of the Vizcaino Desert in Baja California, Mexico. Capture records extend from 10 km SE of El Rosario to just north of Catavina (Fig. 4); all specimens ($n = 6$) were collected between 31 March and 1 May (1975–1985). Since adults of *L. coachella* have been collected from April through October, it is likely that *L. bajaensis* has a considerably longer flight period than the available records suggest. Based on life history information of *L. coachella* (e.g., Comstock 1933, 1956; Flock 1951), it is suspected that larvae of *L. bajaensis* feed on the flowers, buds, and possibly fruits of fan palms in the genus *Washingtonia* (Arecaceae), two species of which occur within its range—*W. filifera* (Linden) Wendl. and *W. robusta* Wendl. (Wiggins 1980).

Discussion.—Poole (1989) included seven species in *Litoprosopus*: *bahamensis*, *coachella*, *conflagens*, *futilis*, *haitiensis*, *hatuey* (Poey), and *punticosta*. We have examined the types of all but *L. hatuey*; it is likely that all are distinct species. The type of *hatuey* may be deposited in a collection in Cuba, but we were unable to locate it. This is particularly troubling because it is the type species of the genus.

Species of *Litoprosopus* are distributed from the southern United States (i.e., Florida, Georgia, Texas, Arizona, California) south through Central America, with a few records from northern South America. Although most exhibit a compara-

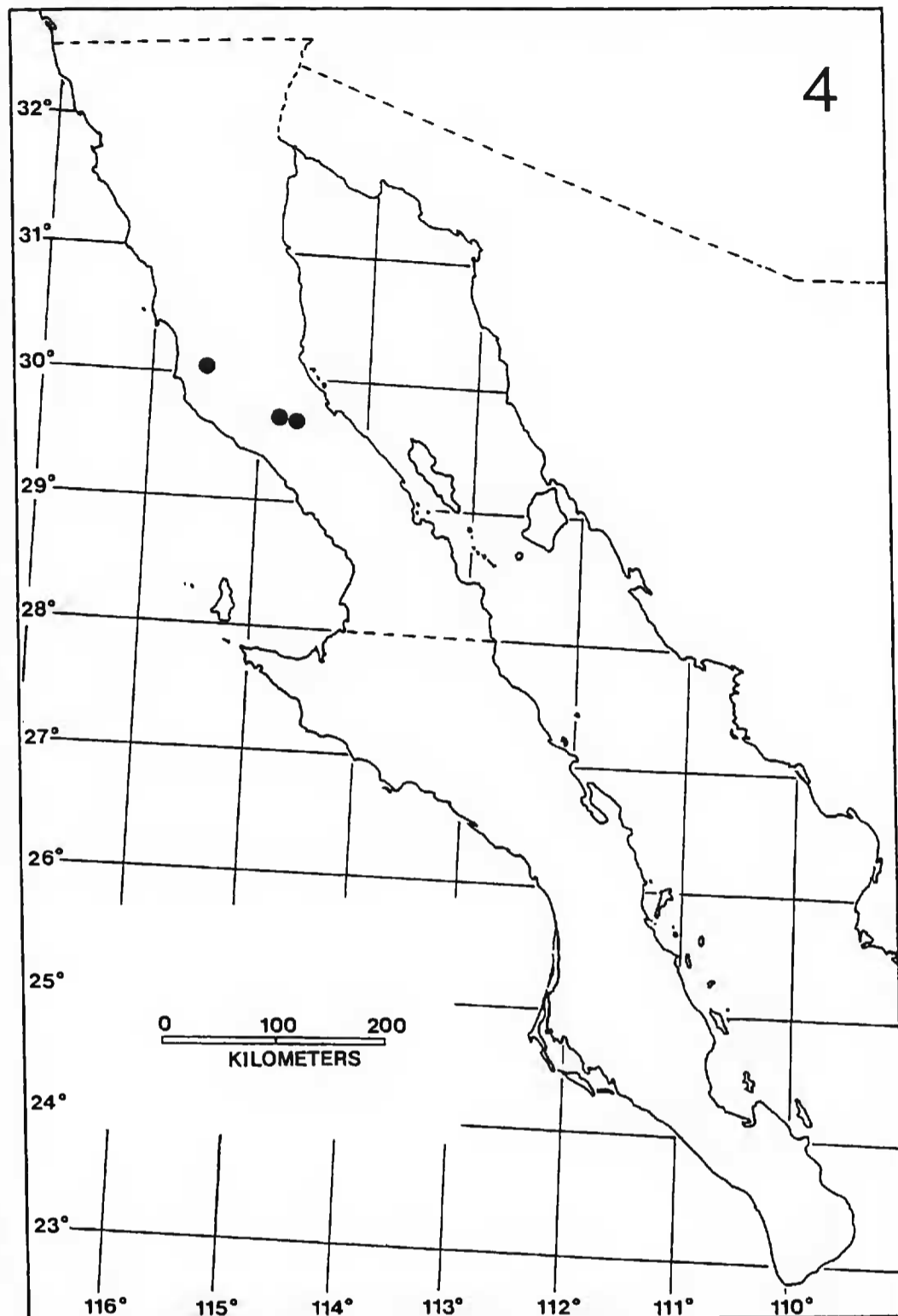


Figure 4. Geographical distribution of *Litoprosopus bajaensis*.

tively limited distribution, *L. confligens* ranges from southern Florida to South America.

The phylogenetic position of the genus within the Noctuidae is unresolved, and species level problems may be present in the Caribbean region (including Florida). The paucity of material from this region inhibits our ability to discriminate between intraspecific variation and interspecific differences.

Material Examined.—See Types.

ACKNOWLEDGMENT

We thank the following for allowing us to examine specimens in their care: Robert W. Poole, United States National Museum of Natural History, Washington, D.C.; John E. Rawlins, Carnegie Museum of Natural History, Pittsburgh,

Pennsylvania; Jerry A. Powell, Essig Museum of Entomology, University of California Berkeley; Julian P. Donahue, Natural History Museum of Los Angeles County, Los Angeles, California; James Miller, American Museum of Natural History, New York, New York; and Ian Kitching, The Natural History Museum, London, England. We thank R. Poole and J. Rawlins for encouragement, assistance, and discussions.

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Received 22 Apr 1996; Accepted 16 Dec 1996